



Ottawa Hull K1A 0C9

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(19) (CA) **APPLICATION FOR CANADIAN PATENT** (12)

(54) Combination Earmuff Radio Headset (Original Radio Earmuffs)

(72) Verbon, Joanne - U.S.A. ;

(71) Same as inventor

(30) (US) 08/498,679 1995/07/03

(57) 6 Claims

Notice: This application is as filed and may therefore contain an incomplete specification.



2180036

**ABSTRACT**

A combination radio headset-earmuff having two earbud type speakers connected by an adjustable headband. Radio electronics are contained within the left earmuff and a power supply and on-off switch are contained within the right earmuff. The present invention allows the wearer to keep the ears warm while listening to the radio headphone. Large, flat, textured controls allow the user to adjust the radio even while wearing gloves. The areas where the control shafts protrude through the outer most layer of the earmuff are sealed in a water tight manner.

## COMBINATION EARMUFF-RADIO HEADSET

### BACKGROUND OF THE INVENTION

This invention relates to earmuffs and is more particularly concerned with earmuffs which are especially adapted for use with a headset radio.

Radio headsets which are comprised of a small radio mounted to a light weight headset, are quite popular. The earphones for such headset radios are generally mounted in small size pads which fit snugly in or on the outer ear. This leaves the pinna and lobe of the outer ear exposed. In cold weather the external ear is therefore liable to frostbite. Ordinary earmuffs cannot be accommodated because of the headband and bulk of the radio portion. In addition, the controls of the radio can not be easily reached if an earmuff covered the radio portion especially if the user is wearing gloves. It is to the alleviation of this problem that the present invention is directed.

The problem of ear protection for the cold weather user of a headset has been recognized in the past. U.S.Pat. No. 4,546,215 issued Oct. 8, 1985 to Ferraro discloses a detachable earmuff for a headset in order to protect the user of a headset in cold weather. However, Ferraro's earmuff is detachable and would not be able to accommodate a radio type headset and would provide no way to operate the radios controls. Richard Chance's U.S. patent no. 4,669,129 issued Jun.2,1987 as an improved version of Ferraro's design and causes similar problems. Gerald K. Ishikawa's pat. No. 4,654,898 issued on Apr.7,1987 also discusses a removable earmuff for headphones which would not accommodate a radio. Richard Byrne's patent 5,257,420 issued Nov. 2, 1993 shows a headband having two speaker receiving pouches. Byrne's design is also intended to combine an existing headphone with a detachable cold weather enclosure. None of the above patents addresses the problem of incorporating a small radio and headphone as an integral part of an earmuff where the

2180036

final design is not overly bulky and the radio controls are easily accessible even when the user is wearing gloves.

#### SUMMARY OF THE INVENTION

It is an object of the present invention to provide a novel and useful combination radio headset- earmuff that is not bulky and where the user can easily adjust the radio controls. An additional object of this invention is to provide a combination radio headset and earmuff where a weather proof grommet surrounds the radio control knob shafts which protrude through the outer earmuff material causing the radio to remain free from moisture. Another object of the present invention is to provide a low profile, textured surface on the radio control knobs so that the user can operate the radio control knobs even while wearing gloves.

#### BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1 is a perspective view of a person wearing the present invention

Fig. 2 is a perspective view of a person adjusting the controls of the present invention.

Fig. 3 is a section view of the present invention

#### DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

Figure 1 shows a person wearing the present invention 50.. On-off switch 6 is conveniently located externally The headband 8 is adjustable in the same way as a conventional earmuff headband. The radio headset-earmuff shown 50 looks substantially like a normal pair of earmuffs because the unique layout of the internal components as shown in Fig. 3

Figure 2 shows a person adjusting one of the radio controls 12 while wearing a winter glove 10. The control knobs 12,52 have a flat profile and blend in with the surrounding outer earmuff material 2. Small bumps on the surface of control knobs 12,54 allow the user to

an element inside the left said earmuff consisting of radio electronics mounted to a rigid plastic plate, said plate hingably connected at its top most surface to the left side of said headband member;

an element inside the right said earmuff consisting of a battery holder, battery and on-off switch all mounted to a rigid plastic plate, said plate hingably connected at its top most surface to the right side of said headband member

and a wire set which travels along and strapped to said headband from said radio electronics to said battery, said right earbud and on-off switch.

2. A combination radio headset-earmuff according to claim 1 wherein said radio electronics contain rotatably adjustable volume and tuning controls whose shafts protrude through the outer surface of said left earmuff and terminate in flat discs, said disks having a textured surface so that a person wearing gloves can easily adjust said controls.

3. A combination radio headset-earmuff according to claim 1 wherein said on-off switch protrudes through the outer surface of said right earmuff and terminates in a slidable textured surface so that a person wearing gloves can easily turn said radio on and off.

4. A combination radio headset-earmuff according to claim 1 wherein a water tight grommet is applied to each of the shafts of said radio controls, said grommet overlapping the inner and outer wall of said outer most layer of said left earmuff creating a water tight seal.

5. A combination radio headset-earmuff according to claim 1 wherein a flexible membrane covers the outer portion of said on-off switch, said membrane being secured to the outer most surface of said right earmuff creating a water tight seal.

6. A combination radio headset-earmuff according to claim 1 wherein said wire set is in a coiled configuration at its center most point to allow for expansion and contraction of said headband.

2180036



FIG 1

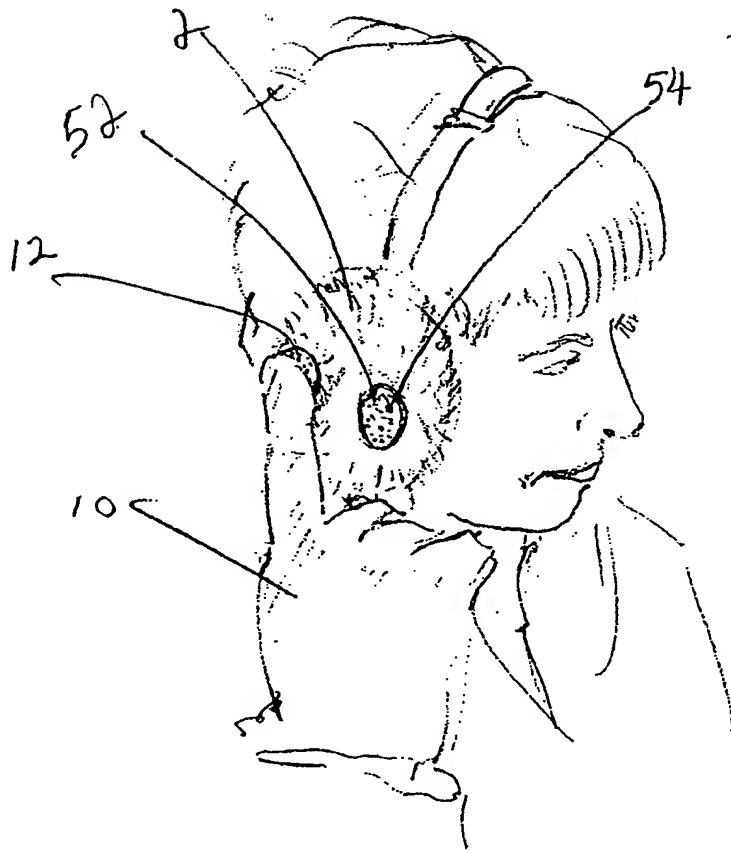


FIG. 2

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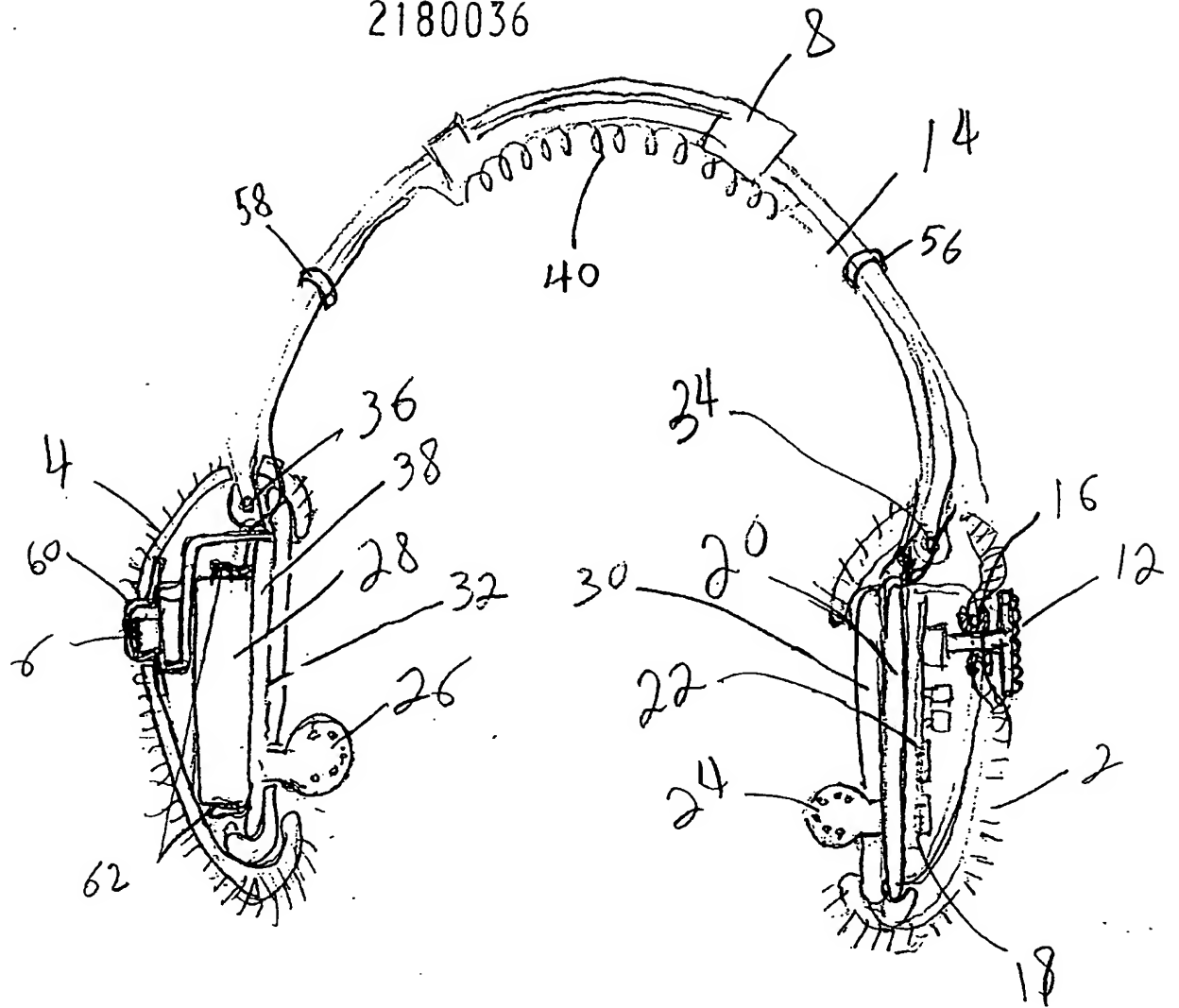
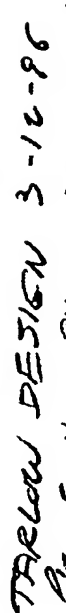


FIG 3

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255 256 257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272 273 274 275 276 277 278 279 280 281 282 283 284 285 286 287 288 289 290 291 292 293 294 295 296 297 298 299 300 301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319 320 321 322 323 324 325 326 327 328 329 330 331 332 333 334 335 336 337 338 339 340 341 342 343 344 345 346 347 348 349 350 351 352 353 354 355 356 357 358 359 360 361 362 363 364 365 366 367 368 369 370 371 372 373 374 375 376 377 378 379 380 381 382 383 384 385 386 387 388 389 390 391 392 393 394 395 396 397 398 399 400 401 402 403 404 405 406 407 408 409 410 411 412 413 414 415 416 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 480 481 482 483 484 485 486 487 488 489 490 491 492 493 494 495 496 497 498 499 500 501 502 503 504 505 506 507 508 509 510 511 512 513 514 515 516 517 518 519 520 521 522 523 524 525 526 527 528 529 530 531 532 533 534 535 536 537 538 539 540 541 542 543 544 545 546 547 548 549 550 551 552 553 554 555 556 557 558 559 560 561 562 563 564 565 566 567 568 569 570 571 572 573 574 575 576 577 578 579 580 581 582 583 584 585 586 587 588 589 590 591 592 593 594 595 596 597 598 599 600 601 602 603 604 605 606 607 608 609 610 611 612 613 614 615 616 617 618 619 620 621 622 623 624 625 626 627 628 629 630 631 632 633 634 635 636 637 638 639 640 641 642 643 644 645 646 647 648 649 650 651 652 653 654 655 656 657 658 659 660 661 662 663 664 665 666 667 668 669 670 671 672 673 674 675 676 677 678 679 680 681 682 683 684 685 686 687 688 689 690 691 692 693 694 695 696 697 698 699 700 701 702 703 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 719 720 721 722 723 724 725 726 727 728 729 730 731 732 733 734 735 736 737 738 739 740 741 742 743 744 745 746 747 748 749 750 751 752 753 754 755 756 757 758 759 760 761 762 763 764 765 766 767 768 769 770 771 772 773 774 775 776 777 778 779 780 781 782 783 784 785 786 787 788 789 790 791 792 793 794 795 796 797 798 799 800 801 802 803 804 805 806 807 808 809 810 811 812 813 814 815 816 817 818 819 820 821 822 823 824 825 826 827 828 829 830 831 832 833 834 835 836 837 838 839 840 841 842 843 844 845 846 847 848 849 850 851 852 853 854 855 856 857 858 859 860 861 862 863 864 865 866 867 868 869 870 871 872 873 874 875 876 877 878 879 880 881 882 883 884 885 886 887 888 889 890 891 892 893 894 895 896 897 898 899 900 901 902 903 904 905 906 907 908 909 910 911 912 913 914 915 916 917 918 919 920 921 922 923 924 925 926 927 928 929 930 931 932 933 934 935 936 937 938 939 940 941 942 943 944 945 946 947 948 949 950 951 952 953 954 955 956 957 958 959 960 961 962 963 964 965 966 967 968 969 970 971 972 973 974 975 976 977 978 979 980 981 982 983 984 985 986 987 988 989 990 991 992 993 994 995 996 997 998 999 1000 1001 1002 1003 1004 1005 1006 1007 1008 1009 1010 1011 1012 1013 1014 1015 1016 1017 1018 1019 1020 1021 1022 1023 1024 1025 1026 1027 1028 1029 1030 1031 1032 1033 1034 1035 1036 1037 1038 1039 1040 1

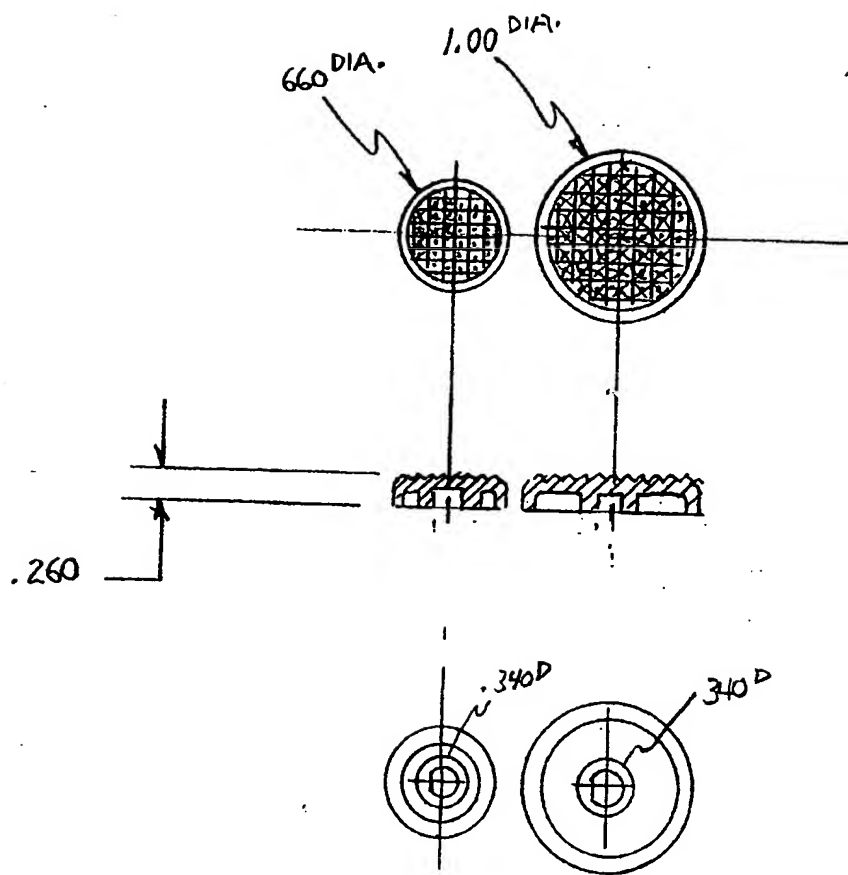


EAR MUFF RADIO  
ASSEMBLY VIEW

Below Design 3-12-86

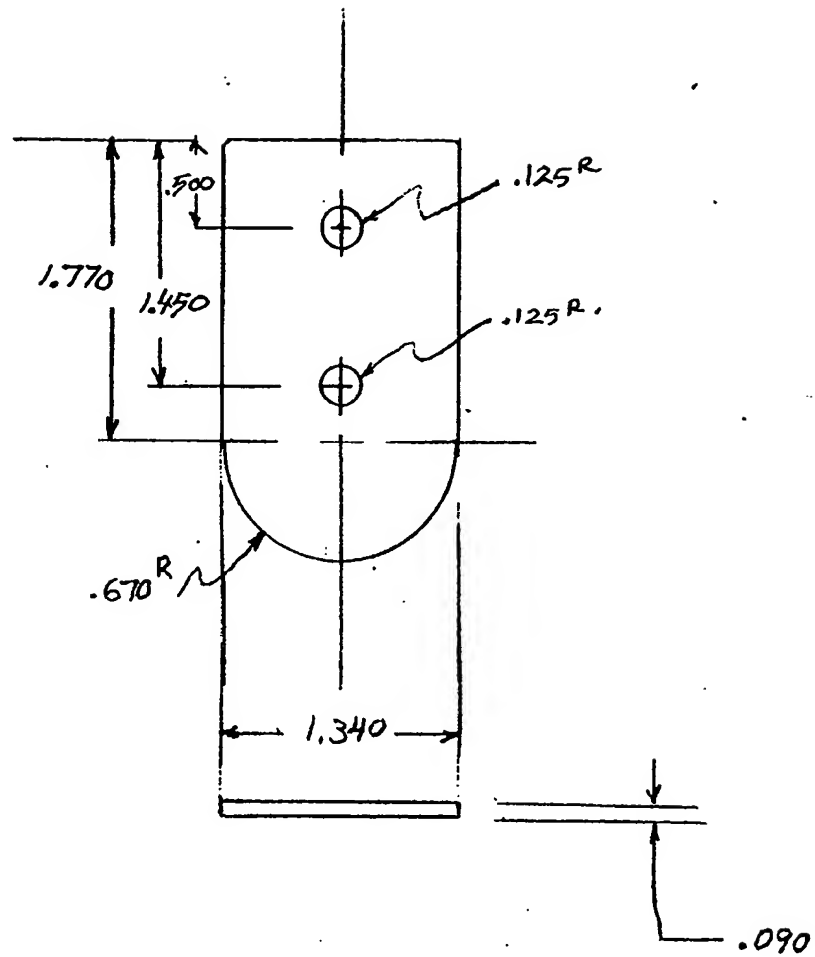


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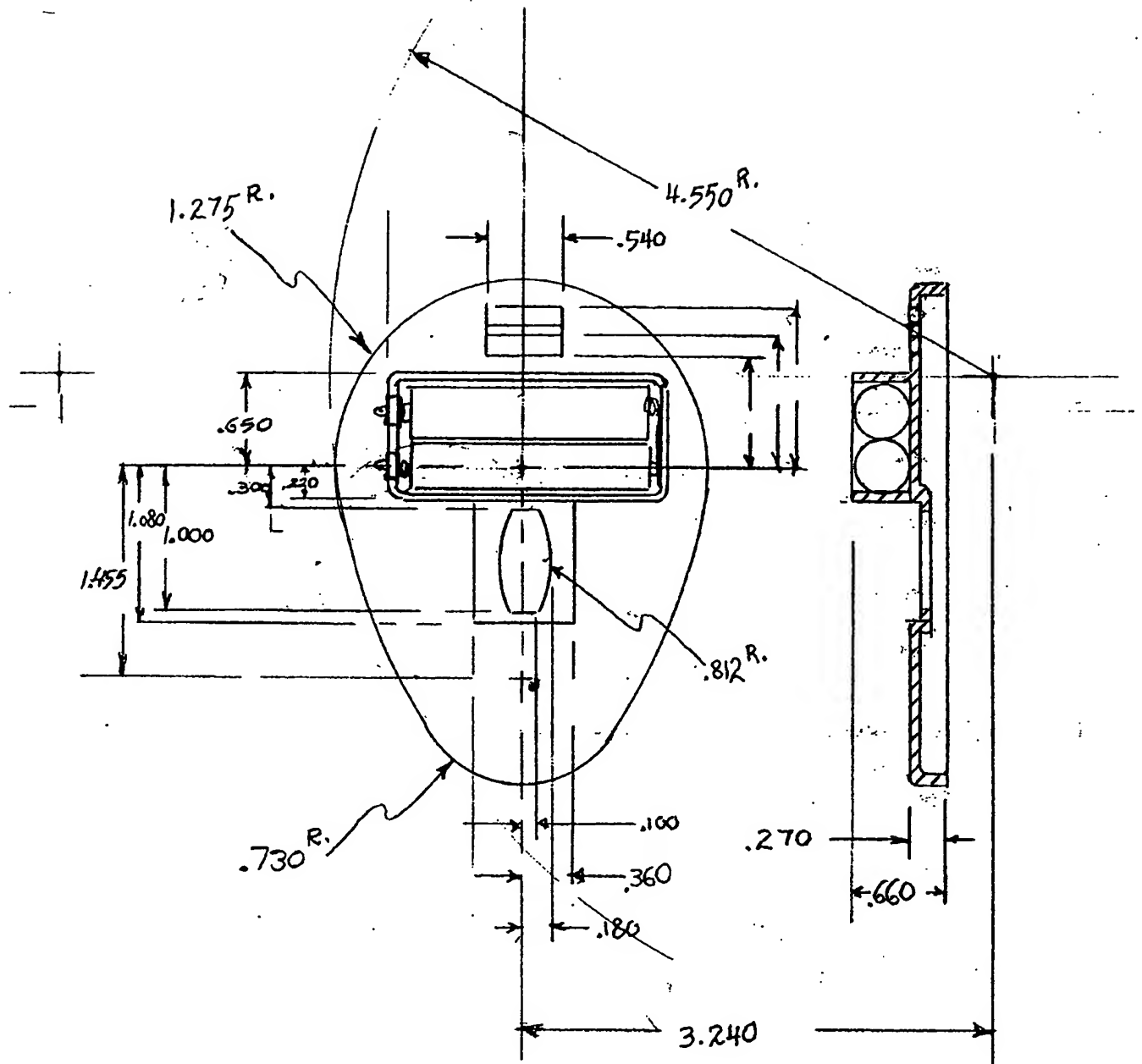
PART # 4 + 6 VOLUME + TUNER KNOB

2180036



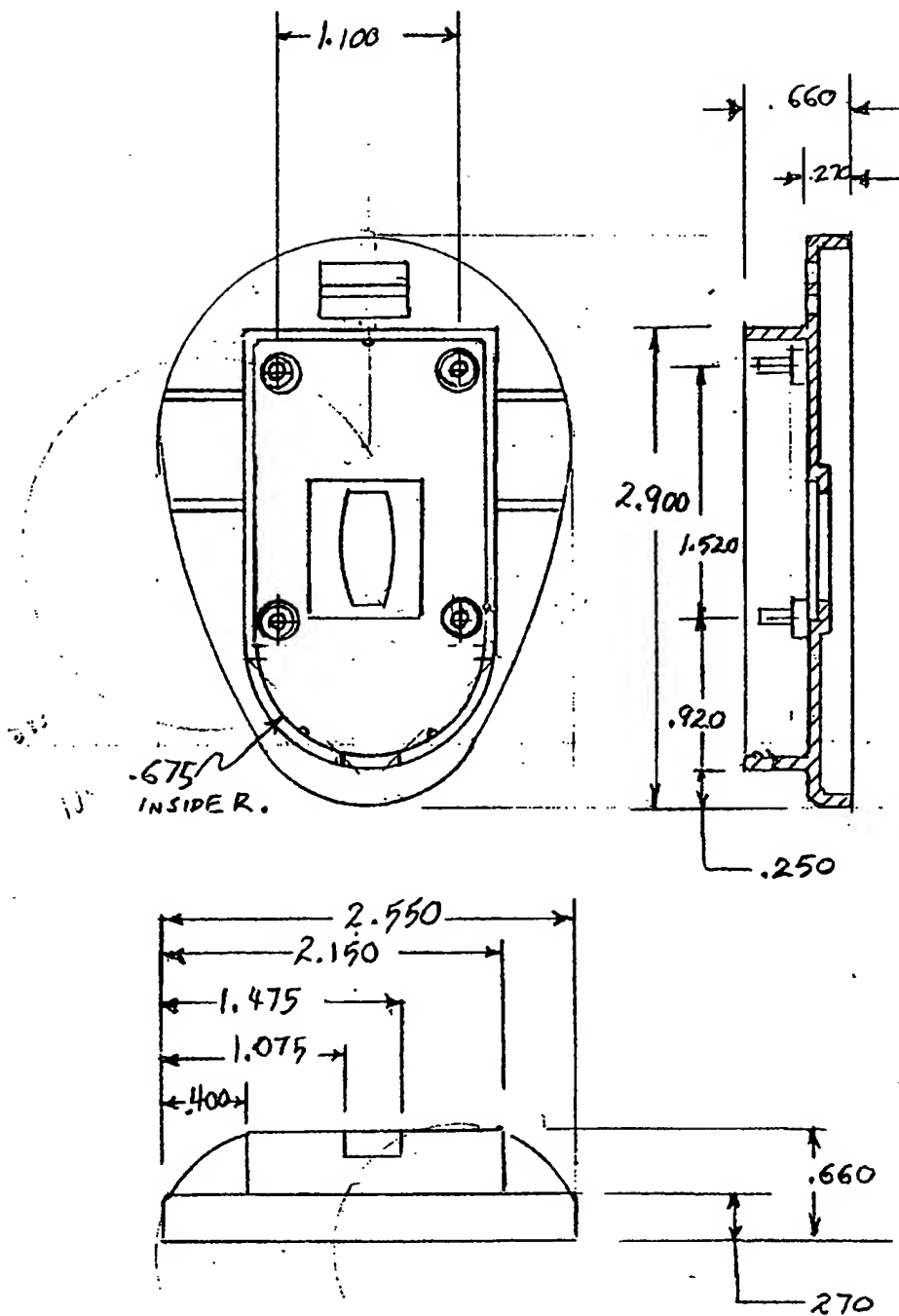
PART # 8 LID

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PART # 14 OPPOSITE EAR MAIN BODY

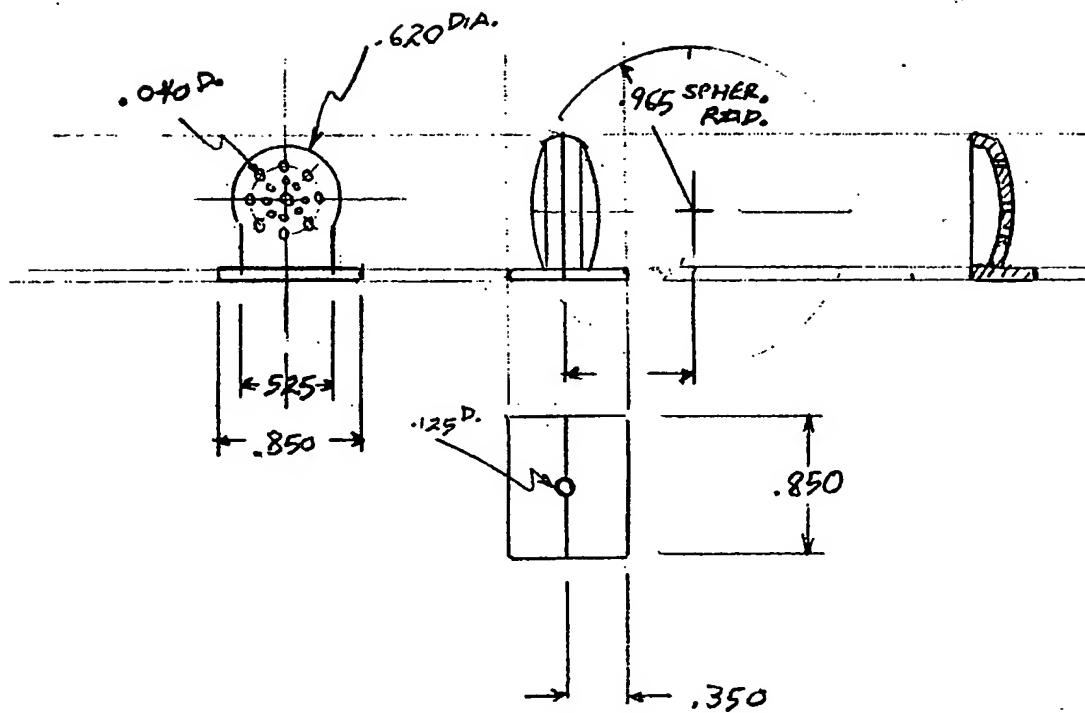
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PART # 9 MAIN BODY- P.C.B. SIDE

SAME OUTSIDE DIMENSIONS AS PART 14

2180036



PART #12 ONE ASSEMBLY = 2 MIRROR IMAGE PIECES